

REMARKS

Claims 1-4, 6-9, 14-15, 18-20 and 22-25 remain pending in the present application.

Claim Amendments

Claim 1 is amended to change the limitation “at least 30% by weight” to “at least 50% by weight”. Support for this amendment resides at page 12, lines 8-9 of the specification. Claim 1 is also amended to state that the liquid retentive layer comprises an air-laid nonwoven fabric as supported by pages 13, lines 12-13 of the specification. No new matter is added by this amendment.

Enclosed 37 CFR § 1.132 Declaration

A 37 CFR § 1.132 Declaration of Mr. Taeko HAYASE, one of the instant inventors, is enclosed with the present reply. The Examiner is respectfully requested to review Mr. Taeko Hayase’s enclosed declaration at this time, inasmuch as comparative test results set forth therein are material to a consideration of the patentability of the instant invention as claimed.

Withdrawal of Prior Rejections

Applicants note with appreciation the withdrawal of the previous grounds of rejections.

Rejection of Claims 1, 9, 14-15 18 and 22-25 under 35 USC 103(a)

Claims 1, 9, 14-15, 18 and 22-25 stand rejected under 35 USC 103(a) as being unpatentable over JP 2000-212866 (JP ‘866) in view of JP 10-273884 (JP ‘884) and Textile Glossary (definition of cellulosic fibers).

Reconsideration and withdraw of the instant rejection is respectfully requested based on the following considerations.

Legal Standard for Determining Prima Facie Obviousness

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

"There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a *prima facie* case of obvious was held improper.).

"In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the

proposed substitution, combination, or other modification.” *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. “The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art.” *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Lee*, 277 F.3d 1338, 1342-44, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002) (discussing the importance of relying on objective evidence and making specific factual findings with respect to the motivation to combine references); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The Supreme Court of the United States has recently held that the teaching, suggestion, motivation test is a valid test for obviousness, but one which cannot be too rigidly applied. See *KSR Int’l Co. v. Teleflex Inc.*, 127 SCt 1727, 82 USPQ2d 1385 (U.S. 2007). The Supreme Court in *KSR Int’l Co. v. Teleflex, Inc.*, *ibid.*, reaffirmed the Graham factors in the determination of obviousness under 35 U.S.C. § 103(a). The four factual inquiries under Graham are:

- (a) determining the scope and contents of the prior art;
- (b) ascertaining the differences between the prior art and the claims in issue;
- (c) resolving the level of ordinary skill in the pertinent art; and

(d) evaluating evidence of secondary consideration.

Graham v. John Deere, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (U.S. 1966).

The Court in *KSR Int'l Co. v. Teleflex, Inc.*, *supra.*, did not totally reject the use of "teaching, suggestion, or motivation" as a factor in the obviousness analysis. Rather, the Court recognized that a showing of "teaching, suggestion, or motivation" to combine the prior art to meet the claimed subject matter could provide a helpful insight in determining whether the claimed subject matter is obvious under 35 U.S.C. § 103(a).

Even so, the Court in *KSR Int'l Co. v. Teleflex, Inc.*, *ibid.*, rejected a rigid application of the "teaching, suggestion, or motivation" (TSM) test, which required a showing of some teaching, suggestion, or motivation in the prior art that would lead one of ordinary skill in the art to combine the prior art elements in the manner claimed in the application or patent before holding the claimed subject matter to be obvious.

Accordingly, while the courts have adopted a more flexible teaching, suggestion, motivation (TSM) test in connection with the obviousness standard based on the *KSR v. Teleflex* case, which case involved a mechanical device in a relatively predictable technological area, it remains true that, despite this altered standard, the courts recognize inventors face additional barriers in relatively unpredictable technological areas as noted in *Takeda Chemical Industries, Ltd. v. Alphapharm Pty., Ltd.*, 83 USPQ2d 1169 (Fed. Cir. 2007).

Further, the Examiner bears the initial burden of presenting a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements;

instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336, quoted with approval in *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007).

Distinctions Over the Cited Art

Applicants initially note that none of the cited art relied on by the Examiner teaches or provides for a cleaning sheet as instantly claimed and it in no way provides any reason or rationale that would allow one of ordinary skill in the art to arrive at the instant invention as claimed, or the advantageous properties that are possessed by the instantly claimed invention.

More particularly, none of the cited art references teach or provide for a cleaning sheet that is comprised of a liquid retentive sheet and at least one air-laid non-woven fabric provided on at least one side of the liquid retentive sheet. The liquid retentive sheet comprising 30 to 100% by weight of cellulosic fibers, and the non-woven fabric preferably containing a combination of (i) thick thermoplastic fibers having a fiber length of 2 to 15 mm and a fineness of 10 to 150 dtex, (ii) thin thermoplastic fibers having a fiber length of 2 to 15 mm and a fineness of 0.5 to 5 dtex, and (iii) wherein 20 to 4000/cm² tips of the *thick fibers* are exposed on the surface of the cleaning sheet.

Further, not only does the claimed nonwoven fabric have intersections of the thick fibers, but also intersections of the thick and thin fibers (*e.g.*, see claim 1). The respective intersections of fibers are bonded by fusion or with a binder. This prevents the thick fibers from falling off, while improving scraping properties of the material.

JP '866 teaches a fiber mat comprised of cellulosic fibers and heat-bondable synthetic fibers. The mat may also be bonded or laminated to another mat comprised of synthetic or natural fibers.

The fiber mat of JP '866 may be nonwoven, which may be an air-laid nonwoven fabric, containing heat-fusible bicomponent fibers having specific affinity to cellulose and cellulosic fibers. The nonwoven fabric is used for a wipe for absorbing liquid and a liquid absorber. It is known in the art that conventional heat-fusible fibers do not exhibit high strength of thermal bonding to cellulosic fibers, since synthetic resins have a low affinity to cellulose.

To the contrary, the heat-fusible fiber of the reference is characterized by high strength of thermal bonding to cellulosic fibers. In contrast, JP '866 is characterized by the use of a special heat-fusible bicomponent fiber having high affinity to cellulose.

The reference is silent with respect to removing soil from a solid surface by scouring or scraping by thick fibers. The reference also fails to teach or suggest the use of thick and thin fibers in combination, together with cellulosic fibers in the manner claimed.

The Examiner concludes at page 3 of the Action that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated a second fiber having a denier of 0.5-6 in the fabric of JP '866, in view of the teaching of JP '844 that fibers can be mixed in nonwoven wipes and that the properties of the wipe can be changed depending on the denier of the fibers employed." The Examiner further states at page 3 that "since JP '866 teaches cellulosic fibers broadly, then the use of any of the particular types of cellulosic fibers would have been obvious to one of ordinary skill in the art."

In response, claim 1 is amended to include limitations of (1) wherein the liquid retentive sheet comprises an air-laid nonwoven fabric, and (2) wherein the content of the thick thermoplastic fiber in the non-woven fabric 5 is at least 50% by weight. As such, it is clear that invention currently under consideration is neither disclosed nor suggested in any way by the cited prior art of JP '866 (alone or in combination with JP '844).

As the outstanding rejection is based in part on the teachings of the JP '844 secondary reference, applicants focus on the deficiencies of this reference in response to the Office Action.

JP '844 discloses a composite nonwoven fabric which comprises a nonwoven fabric (A) and a nonwoven fabric (B). The nonwoven fabric (A) contains short fibers having a length of 38 to 90 mm. The nonwoven fabric (A) is made by carding, whereas the nonwoven fabric (B) is made by air-laying. The nonwoven fabric (A) corresponds to the claimed liquid retentive sheet, and the nonwoven fabric (B) corresponds to the recited air-laid nonwoven fabric.

The carded nonwoven fabric (A) of JP '844 differs from the air-laid liquid retentive sheet 4 of the claimed invention. In support of this contention, enclosed herewith is a 37 CFR § 1.132 Declaration of Mr. Taeko Hayase (one of the instant inventors), which includes new **Comparative Example 7. This Comparative Example prepares a sheet made by overlaying a layer formed by carding, and a layer formed by air laying, using the same method taught by JP '844. As seen from the Table of Data in Mr. Hayase's Declaration, the sheet of Comparative Example 7 is so thin and pliant that it does not easily serve as a wiping cloth.**

With respect to limitation (2) above, JP '844 discusses at paragraph [0027] the fiber fineness of the short fiber nonwoven fabric (B) which is made by air-laying. However, JP '844 does not teach the combined use of fibers of varying fineness.

JP '844 mentions at paragraph [0027] as follows in this regard:

“On the other hand, the short fiber nonwoven fabric (B) is made by accumulating short fibers (B) having 3 to 30 mm of cut length, and has a specific structure as described later. The fineness of the short fibers (B) includes fine fineness (0.5 to 2 d/f), thin fineness (2-12 d/f), middle fineness (12-50 d/f), and thick fineness (50-1000 d/f), which are separately applicable depending on the specific use of the nonwoven fabric (B). . .”

By contrast, the non-woven fabric of the claimed invention is limited to that which includes a large amount of thick fibers (*i.e.*, at least 50% by weight). JP '844 fails to teach such an embodiment where more thick fibers are present than thin fibers. The Comparative Examples 5 and 6 presented in Mr. Hayase's 37 CFR § 1.132 Declaration are directed to embodiments where only thin fibers are present, and no thick fibers. As shown in the Table of Mr. Hayase's 37 CFR § 1.132 Declaration, the resulting sheets of Comparative Examples 5 and 6 do not provide good soil removability, and ease of handling.

In view of the above considerations, the teachings of the cited prior art, taken either singly or in combination, do not teach or suggest the claimed invention. The rejection is thus without basis and should be withdrawn.

Rejection of Claims 2, 11, 19 and 20 under 35 USC 103(a)

Claims 2, 11, 19 and 20 stand rejected under 35 USC 103(a) as being unpatentable over JP '866 in view of JP '884 and further in view of WO 01/52713 (WO '713).

Reconsideration and withdraw of the above rejection is respectfully requested based on the following considerations.

The deficiencies of the JP '866 and JP '884 references are discussed above. The additional citation of the WO '713 reference, directed to the embodiments of dependent claims 2, 22, 19 and 20, does not cure such deficiencies. The rejection is thus without basis and should be withdraw.

Rejection of Claims 3-4 and 6-8 under 35 USC 103(a)

Claims 3-4 and 6-8 stand rejected under 35 USC 103(a) as being unpatentable over JP '866 in view of JP '884 and further in view of EP 926,288 (EP '288). This rejection is respectfully traversed to the extent deemed to apply to the claims as amended.

The deficiencies of the JP '866 and JP '884 references are discussed above. The additional citation of the EP '288 reference, directed to the embodiments of dependent claims 3-4 and 6-8, does not cure such deficiencies. The rejection is thus without basis and should be withdraw.

CONCLUSION

Based on the amendments and remarks presented herein, and the 37 CFR § 1.132 declaration of Mr. Taeko Hayase submitted herewith, it is submitted that each of instantly pending claims 1-4, 6-9, 14-15, 18-20 and 22-25 are in condition for allowance under the provisions of title 35 of the United States Code.

Should the Examiner have any questions concerning the instant reply or the enclosed 37 CFR § 1.132 declaration of Mr. Hayase, the Examiner is invited to contact the undersigned at the

Application No. 09/996,946
Response to Office Action dated September 12, 2007

Docket No.: 0445-0313P

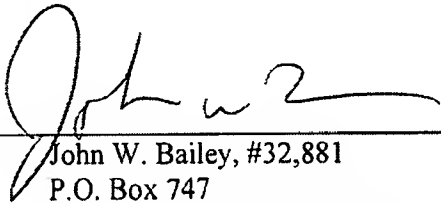
below indicated telephone number, so that further prosecution on the merits in the matter of the instant application can be appropriately expedited.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Date: January 10, 2008

Respectfully submitted,

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Enclosure: 37 CFR § 1.132 Declaration of Mr. Taeko Hayase